

EDUCATION

B.Eng(Hons) Mechatronics Engineering Ontario Tech University

09/2020 - Present

GPA: 3.6/4.3

Courses Taken:

- Statics, Dynamics, Solid Mechanics, Differential Equations, & Concurrent Engineering Design
- Circuit Analysis, Electronics & Object Oriented Programming, Statistics, & Numerical Methods.

WORK EXPERIENCE

Camp Counsellor Rexdale Community Hub

06/2021 - 09/2021

Etobicoke, ON

Achievements/Tasks

- Facilitated workshops to educate teenagers about electrical circuits and soldering. Used Velleman Mini-kits to introduce electronics and allow campers to make fun, educational projects.
- Supervised pre-planned field trips and followed established safety guidelines to minimize accidents and injury risks.
- Resolved conflicts by 100% that arose between campers utilizing the skills learned in High-Five Children Certification Training.

Fanatics Customer Service Representative Teleperformance Canada

05/2019 - 09/2019

Toronto, ON

Achievements/Tasks

- Delivered exceptional customer service to customers by leveraging extensive knowledge of products and services to create positive experiences with a 95% satisfaction rate.
- Fielded customer questions regarding available merchandise, sales, current prices and upcoming company changes. Upsold customers on special orders to increase sales by 7%.
- Communicated with vendors regarding backorder availability, future inventory and special orders.

Rookie League Camp Counselor Toronto Blue Jays Care Foundation & TDSB

06/2017 - 09/2017

Toronto, ON

Achievements/Tasks

- Supported at-risk youths by guiding, mentoring, counseling, and encouraging them to achieve personal goals.
- Cooperated with other counselors to plan & execute daily outdoor/indoor activities and weekly field trips.
- Mitigated conflict between youths by 100% and provided counseling to prevent future incidents.

SKILLS

3D CAD Modelling & Simulation

Team Management

SOLIDWORKS, Autodesk Inventor, AutoCAD & SketchUp

HTML, CSS & JS

C/C++, Java & Python

MATLAB

PowerPoint, Word & Excel

NI Multisim & LabVIEW

Use of Multimeter, Oscilloscope & Spectrum Analyzer

Project Planning

Teamwork

Time Management

Maple

Strong Written & Verbal Communication

PROJECT EXPERIENCE

Portfolio Website (11/2021 - Present)

- Coded a responsive personal website to showcase the Mechanical, Electrical and Software projects done, along with their respective files, code & working video. **URL:** harshkachhia.github.io/
- Used HTML, CSS, JS & incorporated a Formspre API to send form data and Google Analytics to analyze user interaction.

Autonomous Mechanical Rickshaw (10/2021 - 11/2021)

- Lead a team which designed and constructed a humanoid robot pulling a rickshaw carriage(Meccano Kit) that incorporated a gearbox mechanism to upscale torque from a 6V motor by 150% and a carriage with passive suspension using DFMEA & 8D's.
- Modelled the parts of the physical prototype and assembled the system in SOLIDWORKS to create a virtual model with an accurate motion analysis video.

Disc Static Simulation (10/2021 - 10/2021)

- Performed a static simulation using Finite Element Analysis(FAE) of a disc solid body in SOLIDWORKS using varying densities of mesh.
- Produced a report which outlines the stress, displacement and strain on the solid body when a 150 N-m torque is applied about the disc's center.

Aircraft Landing Gear (09/2021 - 10/2021)

- Concurrently designed & constructed a physical(Meccano Kit) and virtual model(SOLIDWORKS) of an aircraft landing gear which deploys and retracts 100% of the time inside a 30 x 30 x 30 cm³ enclosure.
- Applied DFMEA principles for physical prototyping and created a motion study analysis & BOM of the virtual model for presentation.

SafeBox (04/2019 - 05/2019)

- Used PICAXE microcontroller and various sensors to build a safebox with an alarm system.
- Safebox locking mechanism incorporated a photoelectric sensor to detect master key(blue). Switches and gyroscope sensors were used on the system to detect lifting, translation and rotation movement.

Traffic Light Control System (03/2019 - 04/2019)

- Constructed and programmed a traffic light control system which revolved around a PICAXE microcontroller.
- Simulated active traffic data was read using IR & proximity sensors to control traffic flow by adjusting traffic light color.

Course Enrollment (11/2021 - 11/2021)

- Java based OOP which handles the enrollment and backend information management of students registering into University courses.